

**REMARKS**

**INTRODUCTION:**

In accordance with the foregoing, claims 2 and 26 have been canceled, claims 1, 3-16, 19-25, and 27-47 have been amended, and claim 48 has been added. Claims 17 and 18 are withdrawn. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1, 3-16, 19-25, and 27-48 are pending and under consideration.

**CHANGES TO THE SPECIFICATION:**

The specification has been reviewed in response to this Office Action. A Substitute Specification is submitted herewith. Changes have been made to the specification only to place it in preferred and better U.S. form for issuance and to resolve the Examiner's objections raised in the Office Action. No new matter has been added.

**REJECTION UNDER 35 U.S.C. §112:**

In the Office Action, at page 2, item 3, the Examiner rejected claims 1-16 and 19-47 under 35 U.S.C. §112, second paragraph, for the reasons set forth therein. The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Applicants respectfully submit that the amendment of the claims overcomes the Examiner's rejections.

**REJECTION UNDER 35 U.S.C. §102:**

In the Office Action, at page 3, item 4, the Examiner rejected claims 1, 2, 5-9, 13-16, 19-21, 23-25, 27-29, and 46 under 35 U.S.C. §102 (e) as being anticipated by Quist et al., (US 6,199,018 – hereinafter Quist). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Amended independent claim 1 recites "...each of the determining units determining...a status of the respective machine component...wherein when determining the status, each determining unit determines one of a presence of an abnormality and an absence of an abnormality in a sensor waveform, which is the output signal from the associated sensor."

Referring to claim 2, the Examiner stated "Quist teaches that the output signal from the associated sensor is in a waveform (see Quist, column 14, lines 15-17)."

In the section of Quist referred to by the Examiner, the sinusoidal output of a flux sensor 36 is part of a two input digital comparator 42 for determining the slip S and a rotational frequency of an induction machine. (See Quist col. 14, lines 1-28).

Quist states:

"Referring to FIG. 4 the output of flux sensor 36 is passed through a low pass filter 41 to produce a filtered version of the flux sensor output. The filtered output is applied to one input of a two input digital comparator 42. The voltage across a bias resistor 43 is provided to the other input of digital comparator 42. The digital comparator 42 will compare the filtered output of the flux sensor with the voltage across resistor 43 and produce a signal having a value of logic 1 when the filtered flux signal is greater than the voltage across resistor 43 and a value of logic 0 when the converse is true. During normal operation of the machine, the output of flux sensor 36 will vary in an approximately sinusoidal fashion and, thus, the value of the filtered flux signal will periodically vary above and below the voltage across resistor 43. Thus, the output of comparator 42 will be a series of digital pulses.

The present inventors have recognized that, in general, the frequency associated with the digital pulses at the output of comparator 42 will correspond to the rotational frequency of the rotor  $f(r)$ . Thus, by monitoring the frequency of the digital pulse train at the output of comparator 42 it is possible to obtain an indication of  $f(r)$ , which will provide an indication of the speed of the rotor. The selection of the appropriate low pass filter 41 and the appropriate voltage across resistor 43 will be apparent to those of ordinary skill in the art having the benefit of this disclosure." (Quist col. 14, lines 3-28).

Thus Applicants respectfully submit that Quist does not disclose "...each of the determining units determining...a status of the respective machine component...wherein when determining the status, each determining unit determines one of a presence of an abnormality

and an absence of an abnormality in a sensor waveform, which is the output signal from the associated sensor.”

Applicants respectfully submit that claim 1 patentably distinguishes over the cited art, and should be allowable for at least the above-mentioned reasons. Further, Applicants respectfully submit that, claims 3-16, which depend from independent claim 1, should be allowable for at least the same reasons as claim 1, as well as for the additional features recited therein.

Amended, independent claims 19 and 20 recite “...wherein the diagnosing unit includes an examining section to automatically determine, when the sensor information is inputted, whether at least the machine component is properly usable, and a manual diagnosing section to at least one of add a result of diagnosis performed by a person to the result of diagnosis performed by the examining section, and modify the result of diagnosis performed by the examining section based on the result of diagnosis performed by the person.”

Quist discloses “...a distributed, multi-layered, diagnostic system in which a global self-correcting predictive algorithm running on site processor 14 operates on information locally acquired by the local monitoring devices 12 to determine and predict machine operation and failure. In sum, site processor 14 provides a self-correcting predictive algorithm based on the collection of a number of similar motors working under similar environmental and load conditions.” (Quist col. 5, lines 26-45).

The purpose of the systems disclosed in Quist are to automate diagnosis based on statistical algorithms. Quist does not disclose or suggest “...a manual diagnosing section.”

Thus, Quist neither discloses nor suggests “...wherein the diagnosing unit includes an examining section to automatically determine, when the sensor information is inputted, whether at least the machine component is properly usable, and a manual diagnosing section to at least one of add a result of diagnosis performed by a person to the result of diagnosis performed by the examining section, and modify the result of diagnosis performed by the examining section based on the result of diagnosis performed by the person.”

Applicants respectfully submit that claims 19 and 20 patentably distinguish over the cited art, and should be allowable for at least the above-mentioned reasons. Further, Applicants respectfully submit that, claims 21-25, and 27-29, which depend from independent claim 19,

should be allowable for at least the same reasons as claim 19, as well as for the additional features recited therein.

Amended, independent claim 46 recites "...diagnosing a status of lifetime of the machine component based on the received sensor information by using an examining section and a manual diagnosing section; transmitting diagnosis result information, obtained as a result of the diagnosing, to the client corporation through the line; and planning a production of the machine component using a diagnosis result utilizing production planning support unit utilizing the diagnosis result information."

As noted above, Quist does not disclose or suggest using "...a manual diagnosing section." Further, Quist does not disclose or suggest any production planning. Thus, Quist neither discloses nor suggests "...diagnosing a status of lifetime of the machine component based on the received sensor information by using an examining section and a manual diagnosing section; transmitting diagnosis result information, obtained as a result of the diagnosing, to the client corporation through the line; and planning a production of the machine component using a diagnosis result utilizing production planning support unit utilizing the diagnosis result information."

Applicants respectfully submit that claim 46 patentably distinguishes over the cited art, and should be allowable for at least the above-mentioned reasons.

#### REJECTION UNDER 35 U.S.C. §103:

In the Office Action, at page 10, item 5, the Examiner rejected claim 10 under 35 U.S.C. §103 (a) as being unpatentable over Quist in view of Hayami et. al (US 6,064,002 – hereinafter Hayami). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

As noted above in the section regarding the rejection under 35 U.S.C. §102, Applicants respectfully submit that, claim 10, which depends from independent claim 1, should be allowable for at least the same reasons as claim 1, as well as for the additional features recited therein.

Additionally, claim 10 recites "...wherein wiring used to connect the determining units and the associated sensors is a sheathed sensor cable having a sheath that is water proof, dust proof, rust proof, and moisture proof, and resists oil, heat, and electromagnetic noise."

While Hayami does indeed disclose an insulated cable having a waterproof sheath (See Hayami col. 4, lines 52-59), Hayami does not disclose an insulated cable having a sheath that is "...dust proof, rust proof, and moisture proof, and resists oil, heat, and electromagnetic noise. "

Thus, even the combination of Quist and Hayami fails to disclose or suggest a "...cable having a sheath that is water proof, dust proof, rust proof, and moisture proof, and resists oil, heat, and electromagnetic noise."

Applicants respectfully submit that claim 10 patentably distinguishes over the cited art.

In the Office Action, at page 11, item 6, the Examiner rejected claims 30-34, 37, 39-41, and 43-45 under 35 U.S.C. §103 (a) as being unpatentable over Quist in view of Peters (US 5,769,269). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Amended independent claims 30 and 31 recite "...a merchandise information adding unit generating merchandise information associated with the diagnosed machine component in accordance with diagnosis result information of the diagnosing unit and adding this merchandise information to the diagnosis result information..."

Regarding claims 30 and 31, the Examiner stated "Peters teaches a merchandise information adding means for generating merchandise information associated with the machine component and for adding this merchandise information to the diagnosis result information or merchandise information (see Peters, column 10, lines 61-64)."

Peters, however, discloses a vending machine 30, or plurality of vending machines 30 that dispense cassette tapes, cassette tape players, cassette batteries, CDs, music videos for playback, entertainment tickets, debit cards, prepaid telephone cards, and the like. (see Peters col. 8, lines 46-53) The vending machines 30 also communicate with a central host station/CSR 20 to update inventory information and assist customers at the vending machines 03. (see Peters col. 4, line 45 to col. 7, line 60) The vending machine 30 accepts cash or credit and then

dispenses the selected item. (Peters col. 8, lines 19-23). Like any vending machine, the items dispensed are located in the vending machine 30.

Additionally, the section of Peters cited by the Examiner ("During ordering and delivery, the help button is monitored in order that transaction problems can be immediately addressed by the vending machine directly, or by the CSR operator." (Peters, column 10, lines 61-64)) is related to dealing with problems that arise during the selection and dispensing of selected items. The section does not appear to be related to generating merchandise information associated with a diagnosis.

Peters does not disclose or suggest generating merchandise information associated with any diagnosis. Thus, Applicants respectfully submit that Neither Quist nor Peters, alone or in combination, disclose or suggest "...a merchandise information adding unit generating merchandise information associated with the diagnosed machine component in accordance with diagnosis result information of the diagnosing unit and adding this merchandise information to the diagnosis result information..."

Further, one of ordinary skill in the art would have no motivation to combine the intelligent vending machine of Peters with the teachings of Quist because they are unrelated, and Peters does not appear to disclose or suggest a solution to any problem arising from the disclosure of Quist.

Claim 32 recites "...merchandise information added by the merchandise information adding unit includes price information and delivery date information."

Regarding claim 32, the Examiner asserted "Peters teaches that the merchandise information includes price information (see Peters, column 10 lines 42-51) and delivery date information (see Peters, column 10, lines 61-64)."

While it is true that the vending machine 30 must convey a price for the product it dispenses, either delivery is immediate (if the selected item is currently stocked in the vending machine 30) or there is no delivery (if the selected item is not currently stocked in the vending machine 30). Therefore there is no delivery date information. Thus, Applicants respectfully submit that Neither Quist nor Peters, alone or in combination, disclose or suggest

“...merchandise information added by the merchandise information adding unit includes price information and delivery date information.”

Claim 33 recites “...wherein the diagnosis result information transmitting unit includes information asking about the will to order in the merchandise information added diagnosis result information...”

Regarding claim 33, the Examiner asserted “Peters discloses ordering information (see Peters, column 10, lines 61-64).” As noted above, this cited section of Peters is related to dealing with problems that arise during the selection and dispensing of selected items. In Peters, as with every vending machine, the transaction is initiated by the customer. In Peters, there is no information conveyed “...asking about the will to order...” Thus, Applicants respectfully submit that Neither Quist nor Peters, alone or in combination, disclose or suggest “...wherein the diagnosis result information transmitting unit includes information asking about the will to order in the merchandise information added diagnosis result information...”

Claim 34 depends from claim 33, and further comprises “...an order processing unit generating arrangement information of delivery of the machine component according to contents ordered in the agreement information that is received by the diagnosis result information transmitting unit.”

Regarding claim 34, the Examiner asserted “Peters discloses an order processing means for generating delivery arrangement information according to contents ordered in the agreement information (see Peters, column 10, lines 61-64).” In Peters, as with any vending machine, the selected item is either in stock in the vending machine 30, or it is not. Thus there is no generation of delivery information. Thus, Applicants respectfully submit that neither Quist nor Peters, alone or in combination, disclose or suggest “...an order processing unit generating arrangement information of delivery of the machine component according to contents ordered in the agreement information that is received by the diagnosis result information transmitting unit.”

Applicants respectfully submit that claims 30 and 31 patentably distinguish over the cited art, and should be allowable for at least the above-mentioned reasons. Further, Applicants respectfully submit that claims 32-45, which depend directly or indirectly from independent claim 30, should be allowable for at least the same reasons as claim 30, as well as for the additional features recited therein.

CONCLUSION:

In accordance with the foregoing, Applicants respectfully submit that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the cited art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

**Please note that a new Power of Attorney and Revocation of Prior Powers of Attorney was filed for this case on November 19, 2003. A copy is attached. Therefore, please address all communications to Staas & Halsey LLP, USPTO customer No. 21171, at the address indicated below.**

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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